CIVIL AERONAUTICS BOARD
BUREAU OF SAFETY REGULATION
WASHINGTON, D. C.

January 13, 1950

CIVIL AIR REGULATIONS DRAFT RELEASE NO. 50-1

SUBJECT: Annual review of airworthiness parts of the Civil Air Regulations

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In a policy statement dated October 6, 1949, the Civil Aeronautics Board adopted a procedure for the annual review of airworthiness parts of the Civil Air Regulations. The policy statement included the following tentative schedule:

1. Shortly after January 1, a release will be circulated to the public by the Board's Bureau of Safety Regulation. This release will review briefly the status of all the important issues involving these regulations for the coming year. The release will request all interested parties to submit to the Board by May 1* all desired comments and specific proposals for deletions, additions, or amendments to any of the airworthiness parts.

2. After May 1,* the Board's Bureau of Safety Regulation will conduct a study of all the comments and proposals received. It will assemble all the pertinent specific proposals together with its own proposals and with those received from the Administrator of Civil Aeronautics. The assembled proposals will be made in the form of an agenda for an annual airworthiness meeting of all concerned. A second release will be circulated to the public by July 1* announcing the annual meeting and presenting the agenda. The annual meeting will be scheduled for the first week in August. The purpose of the meeting will be to discuss thoroughly all agenda items so that all available information on each item can be adequately presented. It is expected that the meeting will extend over a period of a few days.

3. As a result of the meeting, all items which are considered necessary and sufficiently developed for regulatory action

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* Since the publication by the Board of this tentative schedule, these dates have been reconsidered. In order to allow the public more time to prepare for the annual meeting in August, the dates of May 1 and July 1, as they appeared in the Board's policy statement of October 6, are being changed to April 1 and June 1, respectively.

will be published by October 1 in the form of specific amendments to the Civil Air Regulations. This publication will offer the public a further opportunity of commenting on the proposed annual revision of the airworthiness regulations. All items which are not developed at the meeting to the point where they are ready for Board consideration, but which appear to warrant further investigation, will be reconsidered in the next annual review.

4. Comments received as a result of the publication of the proposed annual revision will be given careful consideration in preparing the final proposed draft of amendments which will be considered by the Board in time for any adopted amendments to be made generally effective by January 1. Such action by the Board will complete an annual cycle.

Accordingly, this release puts into effect paragraph 1 of the schedule. It is therefore requested that all interested parties submit such comments and specific proposals for deletions, additions, or amendments to any of the airworthiness parts of the regulations as they may desire, in duplicate, to the Bureau of Safety Regulation, Civil Aeronautics Board, Washington 25, D. C. In view of the necessity of carrying out the annual review according to a definite schedule, only those comments or proposals which are received by April 1, 1950, can be assured proper consideration within the framework of the 1950 annual review. It may be necessary to defer for consideration comments and proposals received after that date to the subsequent annual review in 1951.

In order to facilitate the submittal of comments and proposals, the status of all the airworthiness parts of the Civil Air Regulations as well as the important issues involving these regulations are referred to in the attachment to this release.

John M. Chamberlain

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ATTACHMENT
STATUS AND MAJOR ISSUES OF AIRWORTHINESS REGULATIONS

GENERAL

The Board, on September 14, 1948, adopted Special Civil Air Regulation SR-327 which redesignated former Parts 01, 02, 03, 04a, 04b, 06, and 09 as Parts 1, 2, 3, 4a, 4b, 6, and 9, respectively. All references to these airworthiness parts are therefore made according to the new designation. In order to comply with Federal Register Regulations, all parts of the Civil Air Regulations, including those pertaining to airworthiness, were published in a recodified form (new system of numbering the sections) in the July 16, 1949, issue of the Federal Register. This publication incorporated all of the amendments adopted by the Board prior to that date. In order to obtain a wider distribution of the recodified regulations, the Board has been reprinting the individual parts as published in the Federal Register. It is intended that all airworthiness parts will be available to the public at an early date in the reprinted form, and may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. It is realized that some interested persons in commenting on specific rules contained in the airworthiness parts may not have the recodified parts available for reference. In these cases, when reference is made to a specific section of the regulations, confusion will be avoided if it is clearly indicated that the old numbering system is being used. Unless otherwise stated, the Bureau of Safety Regulation will use the newly recodified numbers.

PART 1

The latest reprint of Part 1 of the Civil Air Regulations is dated May 10, 1949. It contains certain requirements pertaining to airworthiness certificates. Other rules affecting airworthiness certificates are contained in Part 43 of the Civil Air Regulations and in related publications issued by the Administrator.

At the present time the Bureau of Safety Regulation is considering assembling within Part 1 all material pertaining to aircraft certificates. This would include the present substance of Part 1, the subject material now contained in Part 43, the rules pertaining to type and production certificates now contained in Part 2 of the Civil Air Regulations, and certain other related rules now contained in miscellaneous publications of the Administrator.

PART 2

The presently effective Part 2 of the Civil Air Regulations dealing with type and production certificates was last revised July 1, 1946, and since then has been subject only to slight amendment.

Some of the material of Part 2 appears to be in need of further clarification and simplification. The substance of this part is expected to be transferred to Part 1. (See status of Part 1.)

PART 3

The latest revised issue of Part 3 of the Civil Air Regulations was made effective December 15, 1946, and since then has been subject only to relatively minor amendments.

This part of the regulations contains airworthiness requirements for airplanes in the normal, utility, acrobatic, and restricted purpose categories.

In the past few years, we have received an increasing number of comments to the effect that Part 3 is too restrictive with respect to certain types of airplanes which currently are required to be certificated thereunder. This is particularly true with respect to certification procedures. For example, it has been suggested that certain manufacturers should be permitted to conduct work connected with proof of compliance of the type aircraft without the usual control by the Administrator. Another proposal has been submitted with respect to airplanes which are intended for special industrial purposes, such as agricultural uses, aerial photography, banner-towing, etc. This proposal would allow the Administrator to waive any of the rules contained in Part 3 which were not essential to safety for the intended use of the airplane, and it would permit extremely simplified procedures for certification. As compensating factors, the Administrator would be required to set forth such operating restrictions as would safeguard other aircraft, and persons and property on the ground.

In addition to the major issue of simplifying the certification procedures, Part 3 is in need of a re-evaluation from the standpoint of appropriateness of specific detailed requirements. It has been suggested in the past that certain of the details could well be eliminated from the regulations without altering the established level of safety.

PART 4

Part 4b of the Civil Air Regulations which deals with airworthiness requirements for transport category airplanes was initially made effective November 9, 1945. Since then numerous amendments have been adopted.

Experience with this part of the regulations indicated that in addition to possible substantive changes the part was in need of editorial revision. The Bureau therefore prepared a proposed revised draft of Part 4b which is in the process of being published in the Federal Register at this time. This draft differs somewhat from the presently effective Part 4b in arrangement of contents, in changes of language for the purpose of clarification, and in a few items of substance which are not considered to be of a controversial nature. The proposed draft is being published in the Federal Register in the form of a notice of proposed rule making. After consideration of any comments received thereon, the proposed revised Part 4b will be submitted to the Board at an early date for adoption.

In view of the noncontroversial nature of the proposed draft of Part 4b, it is considered advisable, pending adoption by the Board, that it be used

as a basis for comments and for specific proposed substantive changes during this annual review. Copies of the proposed draft as published in the Federal Register may be obtained free of charge by writing to the Bureau of Safety Regulation, Civil Aeronautics Board, Washington 25, D. C.

Realizing that the airworthiness requirements for transport category airplanes were in need of a substantive re-evaluation, in addition to the editorial revisions which were incorporated in the proposed new draft of Part 4b, the Bureau, in the spring of 1949, prepared Draft Release No. 49-1 (Discussion Material for a Proposed Part 4c). This draft release, although not widely circulated, was made available to the various aviation groups directly interested with the development of transport category airworthiness requirements. The purpose of the draft release was to bring forth the various major issues which have been presented so that these issues could be more conveniently studied. We expect to use Draft Release No. 49-1 as a basis for discussion within the scope of the annual review.

Appendix I of Draft Release No. 49-1 contains the major issues with respect to transport category airworthiness regulations which appear to require resolution. One of the major issues presented therein is the matter of airworthiness requirements of transport airplanes equipped with turbo prop and turbo jet engines. Although events and developments of the past year may have altered to some extent the tentative conclusions reached in Draft Release No. 49-1, (this is particularly true with respect to performance requirements), nevertheless the issues remain and still require consideration. It is hoped that Draft Release No. 49-1 will stimulate such comment and suggestions from interested parties as will enable the Board to resolve some of the important questions by adopting appropriate changes in the transport category airworthiness regulations.

An additional issue which the Bureau considers of timely importance is the matter of protection of occupants from the effects of minor crashes. In addition to a review of the present crash load factors, it appears wise to require on all future transport type airplanes an arrangement of seating whereby most, if not all, the passengers face to the rear. The Bureau is particularly anxious to receive comments from all interested parties on this subject.

PART 5

For some years past, Part 5 of the Civil Air Regulations has been reserved for glider airworthiness requirements. Heretofore the certification of gliders has been accomplished under applicable provisions of Part 3. It appears appropriate now to pose the question whether or not there is sufficient need, because of differences in design requirements and operation limitations between gliders and powered aircraft, to justify the promulgation of a new part of the regulations specifically applicable to gliders.

PART 6

The presently effective Part 6 of the Civil Air Regulations dealing with airworthiness of rotorcraft became effective on May 24, 1946. Prior

to that time there were no airworthiness regulations which applied specifically to rotorcraft. This part has been found in need of substantive revision due to rapid advances in the rotorcraft industry in recent years. As a result, Draft Release No. 49-4 was published on October 1, 1949, and contains a proposed Part 6b.

Draft Release No. 49-4 requested comments from all interested parties by January 1, 1950. At the time of issuance of the release, however, the Board had not adopted the policy of annually reviewing all airworthiness regulations, this policy having been adopted by the Board on October 6, 1949. In view of this latter development, it is believed advisable to reconsider proposed Part 6b in this annual review.

PART 9

Part 9 of the Civil Air Regulations deals with airworthiness of aircraft in the limited category. The purpose of this part was to make available to the public certain military surplus aircraft which were originally designed for the Armed Services, and which experience in the military service had shown to be safe for operation so long as the operation is confined to flights in which neither passengers nor cargo are carried for hire.

Under this part of the regulations the authority to issue limited type certificates expired on December 31, 1947, and the authority to issue limited airworthiness certificates expired on August 31, 1948.

PART 13

The presently effective Part 13 of the Civil Air Regulations dealing with airworthiness of aircraft engines became effective on August 1, 1941, and has remained unchanged to date. Two distinct problems present themselves with respect to this part of the regulations.

In view of the length of time since this part has been promulgated, and because of the advances made in the design of reciprocating aircraft engines, it seems reasonable to assume that a re-evaluation of this part is necessary. It may be advisable in the re-evaluation of this part to consider the ICAO standards for reciprocating aircraft engines recently adopted within the framework of Annex 8.

Aside from any changes necessary in regard to the airworthiness of reciprocating engines, the question arises as to the appropriate airworthiness rules for turbine-type engines.

PART 14

The presently effective Part 14 of the Civil Air Regulations pertaining to airworthiness of aircraft propellers was issued on May 31, 1938, and to date has been amended only in minor details.

It appears that there may be some reason for considering amendments to this part of the regulations, particularly in view of the various new

features which propellers of more recent design have incorporated, e. g. automatic feathering, reverse thrust, etc.

PART 15

The presently effective Part 15 of the Civil Air Regulations pertaining to airworthiness of aircraft equipment was adopted on May 31, 1938, and has been amended from time to time.

It is anticipated that, with the introduction of the Technical Standard Order system for the approval of materials, parts, and processes, there will eventually be no need for this part of the regulations. The deletion of specific regulations from Part 15 with respect to safety belts, which the Board effected December 29, 1949, is the first major step toward this end. Unless it is found undesirable to treat the rest of the substance in Part 15 in a similar manner, it is expected that other parts of Part 15 will be progressively repealed.

PART 16

The presently effective Part 16 of the Civil Air Regulations dealing with airworthiness of aircraft radio equipment was adopted on December 13, 1940, and has remained unchanged to date.

Eventually it may be found advisable to treat radio equipment in a manner similar to that pertaining to Part 15 of the regulations, that is, to process the approval of radio equipment under the TSO system.